

Manure spills putting water supply at risk

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(Photo: H. Marc Larson/Press-Gazette Media/@HMarcLarson)

A brisk September wind carried the smell of ammonia into Dan and Marjorie Andrae's new home in northern Door County.

Disturbed by the odor, the couple hiked up a hill on the edge of their property to investigate. They had seen manure spreaders at work before, but the volume of brown liquid flooding the neighboring farm field last fall caught them by surprise.

"It was burning my eyes, and I was coughing. I thought, 'this has not happened before,'" Marjorie Andrae said.

About one week later the couple began experiencing stomach cramps and queasiness. An unknown quantity of liquid manure had leached from the field down a sinkhole and into the drinking wells of more than a dozen nearby homes, state and county inquiries later revealed.

Sixteen people in the town of Jacksonport became ill, and one person was hospitalized, said Door County Public Health Director Rhonda Kolberg.

Mishaps involving liquid manure are not uncommon. Just two weeks after the Jacksonport incident, about 640,000 gallons (</story/news/local/door-county/news/2014/09/19/manure-spill-among-largest-one-worst/15907071/>) leaked from a storage tank on a town of Brussels farm 30 miles away.

Fond du Lac County manure spills made news in 2014
(<http://www.fdlreporter.com/story/news/local/2015/02/08/manure-spills-news-fdl-county/23037417/>)

Livestock operations have spilled at least 4.8 million gallons of manure since 2009, according to Wisconsin Department of Natural Resources data and published reports across Gannett Wisconsin Media.

More than 3 million gallons of manure spilled in 2013 and 2014.

DATABASE: Search manure spills in Wisconsin since 2009 (</story/news/investigations/2015/02/06/search-wisconsin-manure-spills/22947403/>)

The numbers could be even higher because the DNR's records don't include cases that are still under investigation by the agency.

Most of the incidents resulted from equipment malfunctions, such as ruptured hoses, or accidents, including manure trucks that tipped over, records from the Wisconsin Department of Natural Resources show. Some, including the Jacksonport incident, were caused by improper spreading.

Most spills are cleaned up without any measurable harm to people or animals, DNR spokesman Ed Culhane said.

But at least some have caused fish kills, polluted wetlands and contaminated drinking water, according to reports published by Gannett Wisconsin Media.

Environmental advocacy groups say pollution from liquified manure is one of the biggest hazards for Wisconsin's drinking wells and waterways.

"As a farmer, I've watched some of these issues. Manure is literally running into ditches and getting washed into rivers," said Lynn Utesch, co-founder of Kewaunee C.A.R.E.S., a group promoting environmentally friendly farming practices.

Accidents getting more frequent

Manure is liquified by using water to flush animal waste from barns into storage lagoons. The manure is then sprayed on fields as fertilizer using trucks or irrigation systems.

Leaders in the \$59.6 billion dairy industry say liquid manure is safe when managed properly. The DNR has strict regulations for large farms that produce the most manure, including limits on when and how much can be sprayed.

"We're way ahead of the game (with manure management) compared to the rest of the nation," said Laurie Fischer, director of dairy policy for the Dairy Business Association.

But critics argue accidents are becoming larger and more frequent.

Manure spills putting water supply at risk

<http://www.greenbaypressgazette.com/story/news/investigations/2...>

Between 600,000 and 1 million gallons (</story/news/local/2014/08/12/farm-cited-manure-discharge/13983497/>) of manure flowed unchecked from a storage tank on a Marathon County farm for more than 12 months between 2013 and 2014. A 120-cow dairy farm near Spencer was fined \$464 in August for violating water-pollution regulations.

The manure ran into a nearby wetland and eventually the Little Eau Pleine River, located one mile from the farm. However, there has been no documented harm to people or animals as a result of the incident.



(Photo: Ramelle Bintz/Door County Advocate)

Another spill in the town of Calumet leached 50,000 gallons of manure into Pipe Creek and Lake Winnebago during Memorial Day weekend in 2014. The manure poured from a hole in a transfer hose that went undetected for hours while contracted workers sprayed manure at a nearby dairy farm.

The DNR determined at least 45 fish were killed (https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CCAQFjAA&url=http%3A%2F%2Fwww.fdlreporter.com%2Farticle%2F20140528%2FFON0101%2F305280316%2F&ei=e8vTVPKTG1qzggSw7oPIAg&usg=AFQjCNEUVH2e7ayewG5AeUy6k9Ti_AtLXw&sig2=hZZiHycReUMzZHN70FRguQ&bvm=bv.85464276,d.eXY) within a 100-foot section of Pipe Creek as result of the spill.

Manure contains many pathogens, including E. coli and coliform bacteria, that can harm people and animals. When liquified, the manure more easily flows into waterways or seeps into groundwater, said Jason Lowery, spills response team leader for the DNR.

Areas in central and northeastern Wisconsin are particularly vulnerable to contamination because of sandy and rocky soils that allow liquids to seep through more easily and quickly, DNR officials and local conservationists said.

Nearly one-third of private drinking wells in Kewaunee County are contaminated with high levels of bacteria, according to a petition sent by local conservationists to the Environmental Protection Agency in October. The petition asserts large farms are behind the contamination.

In Dodge County, 21 percent of wells tested positive for coliform bacteria and 10 percent had E. coli, according to a 2012 land and water resources plan.

"We're very worried about that," said Bob Clarke, an activist who heads the central Wisconsin water conservation group Friends of Central Sands. "How do you compromise on clean water? It's either clean or not."

(Desktop users, continue reading below.)

Impact of megafarms

A growing number of conservationists, landowners and lawmakers are blaming the spills and well pollution on the proliferation of so-called megafarms.

Wisconsin is home to more than 260 megafarms, also called concentrated animal feeding operations. That's up from less than 50 megafarms (http://dnr.wi.gov/topic/AgBusiness/documents/cafograph_lg.pdf) just 10 years ago, according to DNR permitting records.

These farms are home to about 400,000 dairy and beef cows that produce 47 million gallons of manure every day, based on estimates by the Environmental Protection Agency (<http://www.epa.gov/region9/animalwaste/problem.html>). That's more waste than the amount produced by all the residents of Wisconsin combined.

"When you have one farm producing millions of gallons of manure in one year and there's a need to spread that over massive areas — I just have to think the danger is greater," said Shahla Werner, director of the Sierra Club's Wisconsin John Muir chapter.

Fischer, of the Dairy Business Association, said it's unfair to lay blame on the large operations, which are becoming increasingly necessary for farmers to make a living and meet people's demand for food.

"Regardless of if you're a small, medium or large farm, accidents can occur. It's how we manage those farms on a day-to-day basis that matters," she said.

The 270-cow farm responsible for the Door County spill (</story/news/local/door-co/news/2015/01/16/farms-waste-hauler-fined-manure-spills/21893601/>) that made the Andrae family sick is not classified as a megafarm.

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A contracted worker sprayed liquid manure near a sinkhole that was supposed to be avoided. That error, combined with heavy amounts of rainfall after the spreading occurred, caused the manure to seep into people's wells, according to county and DNR reviews of the case.

"This whole thing came up as a perfect storm of problems," said Dan Andrae.

The couple recently installed an expensive water treatment system that kills bacteria with ultraviolet light so they can drink their own water again. Several neighbors are still dealing with the contamination, the couple said.

"My concern is this is just the tip of the iceberg," Marjorie Andrae said.

Response needed

Local and state policymakers are taking a more active role in regulating manure spreading.

A citizens advocacy group from Fond du Lac County persuaded the town of Rosendale to ban aerial spraying of manure by classifying it as a public nuisance in 2012. The town is home to one of the state's largest farms, Rosendale Dairy.

In 2014, Kewaunee County passed an ordinance banning the manure spreading from January to April 15, when frozen ground increases the risk of pollution from manure runoff.

State Sen. Dave Hansen, D-Green Bay, who sits on the Senate's agriculture committee, said he is considering introducing legislation that could force some counties to create contamination prevention plans.

Hansen first introduced the bill in 2009 but couldn't find enough support to move it forward. He said the number of manure spills in recent years has him looking at reviving the bill.

"We do have a problem here. The ground water needs to be protected. The wells need to be protected, and it may be too late to do something about it," Hansen said.

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(Photo: Courtesy of Wisconsin Department of Natural Resources)

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